

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in this application.

Listing of Claims:

1-10. (Cancelled)

11. (Currently Amended) A thermal bubble ink jet head having off-shooter heaters and a rapid ink refill mechanism comprising:

a silicon substrate having a top surface and a bottom surface;

~~an first~~ insulting material layer of at least 1000Å thick on said top surface;

a funnel-shaped manifold formed in said silicon substrate with a narrower end of said manifold oriented towards said top surface;

two spaced-apart heaters formed on said first insulting material layer on said top surface,
a first of said two spaced-apart heaters being disposed on a first side of said manifold and a second of said two spaced-apart heaters being disposed on a second side of said manifold;

two interconnects formed of a conductive metal each in electrical communication with one of said two spaced-apart heaters;

~~a third second~~ another insulting material layer on top of said two spaced-apart heaters and said ~~first~~ insulting material layer;

a ~~first~~ photoresist layer of at least 2000Å thick on top of said ~~third~~ another insulting material layer;

a primary and an auxiliary ink chamber formed in said first photoresist layer in fluid communication with each other and with said funnel-shaped manifold, the primary ink chamber being disposed substantially co-extensively with the first side of said manifold, and the auxiliary ink chamber being disposed substantially co-extensively with the second side of said manifold;

a metal seed layer on said first photoresist layer and an inkjet orifice formed in said metal seed layer, said inkjet orifice being in fluid communication with the first side of said manifold;
and

a Ni layer on top of said metal seed layer with an aperture formed therein in fluid communication with said inkjet orifice.

12. (Currently Amended) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 11, wherein said ~~first~~ photoresist layer preferably has a thickness of at least 5000 Å.

13. (Previously Presented) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 11, wherein said inkjet orifice is formed in close proximity to said two spaced-apart heaters.

14. (Currently Amended) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 11, wherein said ~~first and second insulating material layers~~ insulating material layer and said another insulating material layer are SiO₂ layer or a Si₃N₄ layer.

15. (Previously Presented) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 11, wherein said two spaced-apart heaters are formed of TaAl.

16. (Previously Presented) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 11, wherein said metal seed layer is deposited of Cr or Ni.

17. (Previously Presented) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 11, wherein one of said two spaced-apart heaters are positioned in said auxiliary ink chamber.

18. (Previously Presented) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 11, wherein a ring-shaped heater is positioned in said primary ink chamber.

19. (Previously Presented) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 18, wherein said inkjet orifice is formed in said primary ink chamber opposite to said ring-shaped heater.

20. (Previously Presented) A thermal bubble inkjet head having heaters and a rapid ink refill mechanism according to claim 11, wherein said inkjet head is a monolithic head.